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METHOD OF TEST FOR RESIDUE BY EVAPORATION OF EMULSIFIED ASPHALT

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read "**SAFETY AND HEALTH**" in Section E of this method. It is the responsibility of the user of this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. SCOPE

This method of test, which is a modification of AASHTO Designation T 59, is a rapid method for determining the percentage
of asphalt in emulsified asphalt by evaporating the water and weighing the residue.

B. APPARATUS

1. Container: The container in which the sample is to be tested shall be a flat-bottom, cylindrical, seamless tin box, approximately 87 mm in diameter and 60 mm in depth. The container is commonly known as a 12-ounce ointment can.

2. Balance: A balance with adequate capacity accurate to ± 0.1 g.

3. Hot Plate: A thermostatically controlled hot plate capable of maintaining a surface temperature of 149 ± 14°C.

4. Forceps: Capable of gripping the edge of the container.

C. PROCEDURE

Weigh 25 ± 0.1 g of thoroughly mixed, emulsified asphalt into each of three containers, each container having previously been weighed. Place a container on the hot plate that has been adjusted to have a surface temperature of 149 ± 14°C.

Allow the water in the emulsified asphalt to boil off. When the material has reached a condition where the surface is slightly bubbly, pick up the container by its edge with a forceps and gently swirl it until the bubbles disappear and the materials appear mixed. Place the container back on the hot plate for a few minutes. When the appearance of the asphalt is smooth and glassy, remove the container from the hot plate and allow it to cool to room temperature. Weigh and record this mass. Repeat this procedure for the second and third samples.

NOTE: The amount of time required to boil off the water should be approximately 20 to 30 min. Under no circumstances should the material be left on the hot plate until it smokes.

D. CALCULATION AND REPORT

1. Calculate the percentage of residue for each sample, as follows:

   Residue, percent = 4 (A - B)

   Where:

   A = Mass of the container and asphalt residue in grams, and

   B = Tare mass of the container in grams.

2. Report the percentage of residue by evaporation as the average of the results from the three containers.

E. SAFETY AND HEALTH

Care should be exercised in regard to eye and skin protection, as there is a possibility of splattering.

Prior to handling, testing or disposing of any waste materials, testers are required to read: Part A (Section 5.0), Part B (Sections: 5.0, 6.0 and 10.0) and Part C (Section 1.0) of Caltrans Laboratory Safety Manual. Users of this method do so at their own risk.

REFERENCES:

AASHTO Designation T 59,

End of Text (California Test 330 contains 2 pages)